eyeheight

MW-2E

A/B Video and embedded audio mixer.

user manual

User Manual Versions

Versions	Changes	Date	SW Vers
1.00	Original Version	6/1/2008	7.3
1.1	Audio menu errors corrected.	11/8/2008	7.5/7.6
1.2	Errors in section 3.4 on setting up Etherbox tallies.	1/12/2008	7.7

eyeheight Unit 34 Park House Watford Business Park Greenhill Crescent Watford Herts GB WD18 8PH
Reg. No. 2855535 Telephone: +44 (0) 1923 256 000 Fax: +44 (0) 1923 256 100 email: eyesales@eyeheight.com

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Reg. No. 2855535 Telephone: +44 (0) 1923 256 000 Fax: +44 (0) 1923 256 100 email: eyesales@eyeheight.com

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Reg. No. 2855535 Telephone: +44 (0) 1923 256 000 Fax: +44 (0) 1923 256 100 email: eyesales@eyeheight.com

1 System Overview

1.1 The MW-2E Product

This manual describes the function of the MW-2E, mixer/wipe unit. The MW-2E is designed as a replacement to the older MW-3/3E unit. Six MW-2E units can fit into an eyeheight 1RU chassis (FB-9 or FB-9E) making it twice as compact as the MW-3/3E unit. The MW-2E product also has a full 16 channels of audio as standard.

The MW-2E is an A/B (2-Input) SDI Mixer unit which will perform a variety of transitions commonly used in transmission and post production. The main features are as follows:

- A/B Mix/Cut transitions
- A/B Wipe transitions with 8 wipe patterns with coloured/soft borders
- 16 channel embedded Audio Mixing follows video transitions. (configurable as mix or cut transitions, cut transitions suitable for dolby E splice)
- Embedded Audio transition can lead or lag video Transitions under automation.
- Embedded audio manipulation (LR swap, Mono….)
- Programmable (Auto) or manual transitions
- Preview Output with safe area generator built in.
- Internal Matte and Black Generator.
- Up to +/-32uS user definable synchronisation window for A/B Inputs
- External Digital Reference Input ensures output stability
- Transparent to all embedded signals
- 6 user memories
- Compatible with etherbox GPI/Tallies.
- FULLY software and firmware updatable using Flash technology.
- Mechanical relay bypass option available.
- Compatible with eyeheight geNETics automation protocol.

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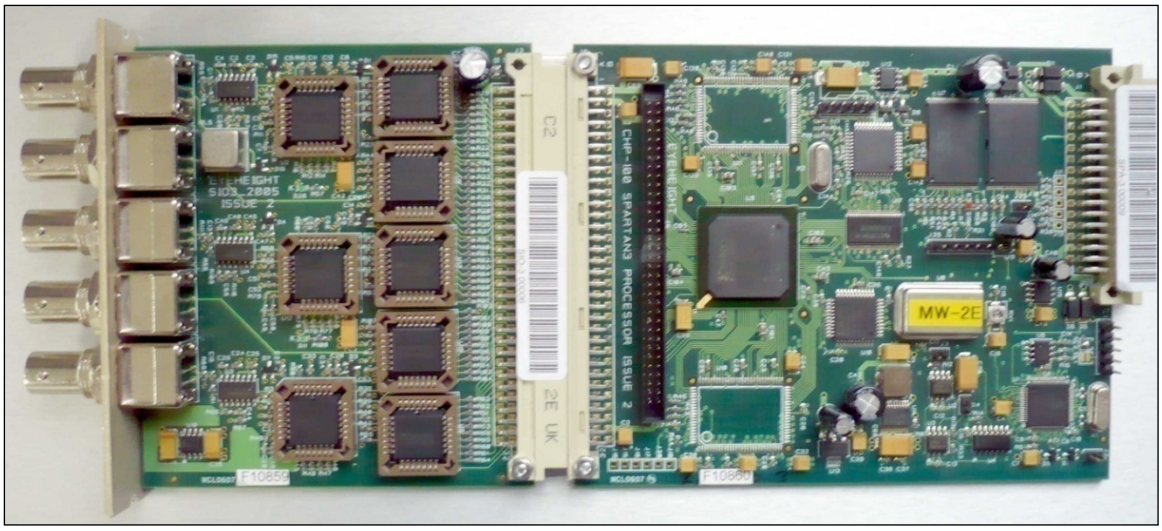

Figure 1 MW-2E Processing card.

Associated Equipment for the MW-2E

The MW-2E processing card requires the following in order to set up and operate the unit.

1. An etherbox chassis (FB-9E). Up to six MW-2E units and be installed in one chassis.
2. A Flexipanel control surface such as an FP-9 or an FP-10.

Figure 2 - Front view of etherbox (FB-9E) fitted with FF-9 blank panel

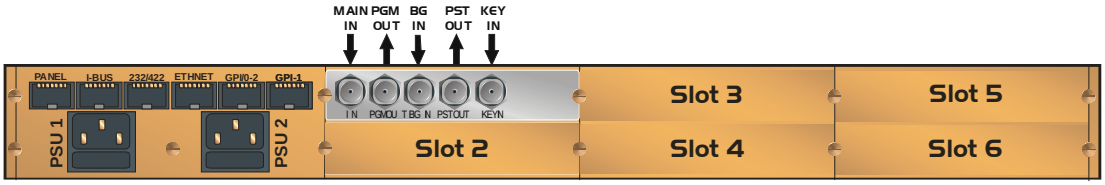

Figure 3 Rear view of etherbox with a single MW-2E installed.

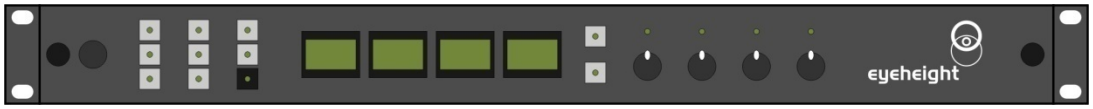

Figure 4 FP-9 Flexipanel can be fitted on the FB-9E or remotely using and RR-9 kit.

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2 Installation

This unit requires SDI digital video connections to the BNC connectors. The user should refer to the etherbox user manual for installation of the MW-2E into a chassis and connection of flexipanels. This will also describe the process of acquiring a processing card (in this case the MW-2E) by the Flexipanel which is necessary to access the menu structure within the MW-2E.

2.1 Connections on the MW-2E product

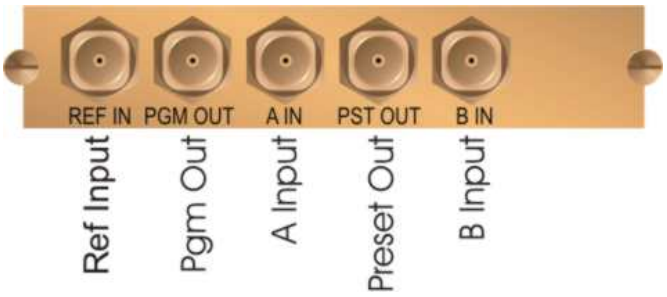

Figure 5 MW-2E connections

A Typical Connection diagram for the MW-2E is shown below. All signals, including the reference, are SDI.

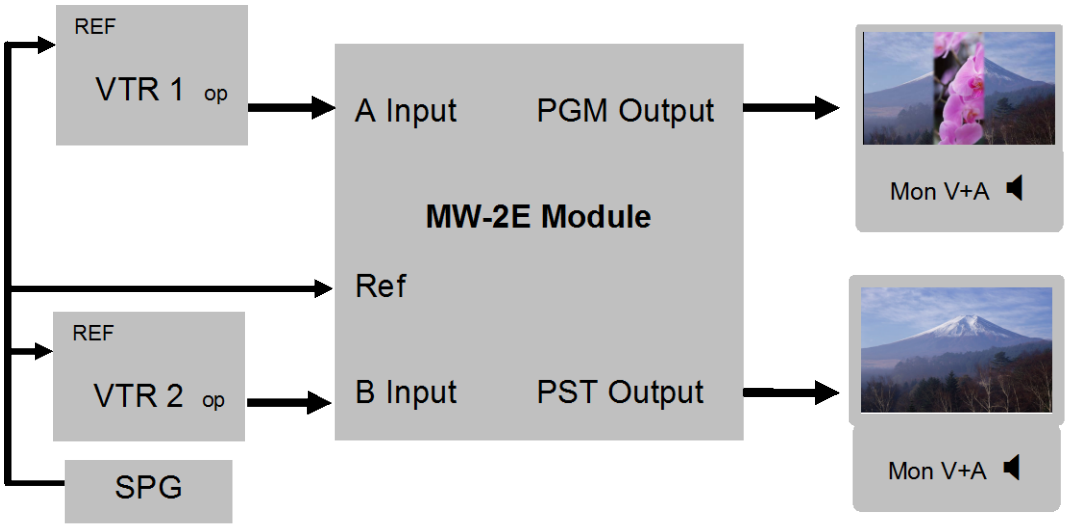

Figure 6 - Typical connections for an MW-2E Module

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3 Menu Control of the MW-2E

All GeNETics products are controlled using a generic menu system. This generic menu system is operated from a generic panel (Flexipanel FP-9 or FP-10). An FP-9 is shown below (An FP-10 has the same controls in a different layout style). For information about acquiring processor cards for control on a Flexipanel see the etherbox manual section 4.

3.1 Flexipanel controls.

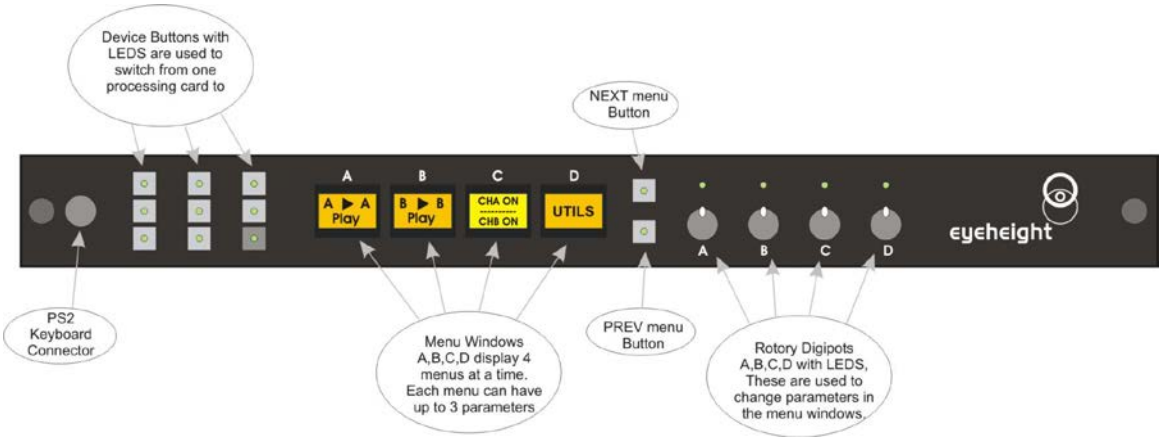

Figure 7 Flexipanel (FP-9) controls.

3.1.1 Device Buttons.

There are 8 grey device buttons. These switch between the currently selected processing cards installed in the etherbox. It is also possible to select cards in another chassis if the I-Bus is connected to the other chassis.

3.1.2 Menu Navigation.

There are two ways to navigate from menu to menu.

1. Using the NEXT ane PREV buttons. These are for “Flat” menu structures. The NEXT and PREV LEDS will flash while further menus are available.
2. Using a GOTO ANOTHER MENU LCD button (as below coloured orange). This is more common and will take you straight to a relevant set of menus. Examples are the Play and UTILS menu’s shown on Figure 8.

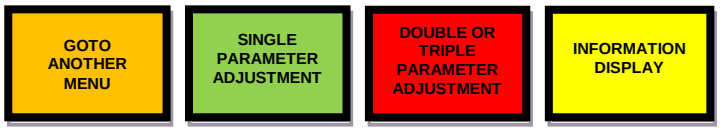

Figure 8 Types of menus showing their characteristic colours

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3.1.3 Parameter adjustment of a green menu.

A green menu is one in which there is only one adjustable parameter. There are two ways to adjust the parameter in a green menu.

1. Press the green LCD button. This will increment the value in that window. This is most frequently done when the menu parameter is Textural for example switching a parameter between ON and OFF. In this case a button press is most natural.
2. Use the Rotary digipot (A,B,C or D) to adjust the parameter in the respective LCD window (A,B,C or D). The direction and speed of rotation enable numeric values to be set easily.

3.1.4 Parameter adjustment of a red menu

A red menu is one in which there is two or three adjustable parameters. In this case it is necessary to first select the menu by pressing the red button. When the red button is pressed it will turn green and either two or three of the rotary digipot LEDS will flash indicating that the respective rotary digipot will operate the respective parameter.

3.1.5 Information display

A Yellow menu (Which on most panels does look a light orange!) is one in which only information is displayed. An example of this is the software version display.

3.2 Memories

3.2.1 User Memories

The user memories are a generic feature of all eyeheight geNETics products. Six of these are included in the MW-2E. Parameters as shown in the RED menu numbers are saved.

3.2.2 Naming User Memories

The user memories can be named with up to 6 characters. To do this plug in a PS-2 Keyboard into a Flexipanel and select the appropriate processor card with a device button. (See Figure 8 for connector location). To name memory 1, “TXroom”

1. Hit F9 function key. The LCD displays will change to text entry mode
2. Type “M01:TXroom” and then press enter.
3. You may get a “not acknowledged” message, this does not matter.

Other memories can be named in the same way but changing the 01 to another memory number.

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3.3 Tamper Locking the MW-2E.

The user can lock specific menus or all the menus on the MW-2E so that it cannot be adjusted with a manual control panel. This does not effect automation.

To do this plug in a PS-2 Keyboard into a Flexipanel and select the appropriate processor card with a device button. (See Figure 8 for connector location). To lock only menu 5. (Next Logo for channel A)

1. Hit F9 function key. The LCD displays will change to text entry mode
2. Type “L05:” and then press enter.

A padlock symbol will appear on the menu and it cannot be adjusted. To unlock menu 5, type “A05:” as step 2 above. Other menus are done in the same way

To lock the whole product type “L:” as step 2 above and to unlock the whole product type “A:” as step 2 above.

3.4 Configuring tallies on the etherbox.

The MW-2E can make use of the three configurable tallies on the etherbox chassis. The etherbox chassis has three usable tallies. These are numbered tallies 11,12 and 13. Set up these menus for the box number and tally number for A channel and B channel inputs of the mixer on menu number 45. If you do not wish to use a tally set the box number to 0. Refer to the etherbox manual for interface information.

3.5 The MW-2E Menu Set.

Menus 00-03 Top Level Menus

Menu Num.	Heading	Automation	Function
00	PLAY	none	Go To the main Play menus (4-7)
01	VIDEO	none	Go To the main Video menus (8-23)
02	AUDIO	none	Go To the main Audio menus (108-127)
03	UTIL	none	Go To the main Utility menus (32-63)

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Menus 04-07 PLAY Menus

Menu Num.	Heading	Automation	Function
04	TAKE	1=take B 2=take A	This Causes the Auto Transition to occur.
05	PROGM	0=In A 1=In B 2=Matte 3=Black	This Shows the currently selected “On-air” Source. A,B matte or black (matte and black are internal sources)
06	PRSET	0=In A 1=In B 2=Matte 3=Black	This Shows the Next selected “On-air” Source. A,B matte or black (matte and black are internal sources)
07	BACK	none	Go To the Top Level Menus

Menus 08-11 VIDEO Transition Set-up Menus (NEXT for more)

Menu Num.	Heading	Automation	Function
08	TRANS	0=Mix 1=Wipe 2=Cut 3=Cut-Cut 4=Cut-Fade 5=Fade-Cut 6=Fade-Fade	This sets the transition type between Mix, Wipe and Cut and “U” and “V” fade types. “U” and “V” fades Transition to either “Black” or “Matte” and then “Hold” for a period before then transitioning to the Preset Source.
09	TIME	Menu Level “A” 1-200 Menu Level “B” 1-200	Press this button and the two digipots indicated by the lit LED’s will change

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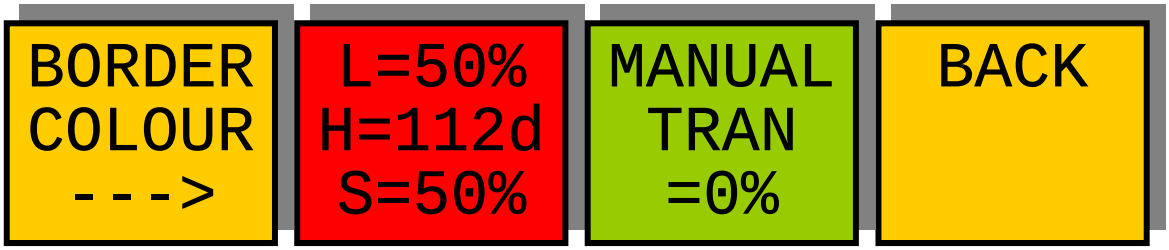
			the transition time (in fields - Tr) and the Hold time (in fields – Hd). The Hold time is the time that the “U” and “V” fades stay on Black (Or Matte).
10	WIPE (Pattern)	0=Vertical 1=Horiz 2=Vert Curtain 3=Horiz Curtain 4=Diagonal 5=Diamond 6=Arrow Left 7=Arrow Up	This shows a representation of the shape of the currently selected Wipe Transition.
11	BACK	none	Go To the Top Level Menus

Menus 12-15 VIDEO Transition Set-up Menus (NEXT/PREV to navigate)

Menu Num.	Heading	Automation	Function
12	BORDER	0=Off 1=Soft 2=Colour 3=Soft&Col	This selects the Type of Border on the Wipe edge between; No Border, Soft, Coloured and Soft and coloured.
13	BORDER SIZE	1-49	This sets up the Wipe Border Size between “1” (min) and “49”, (max)
14	COLOUR DEPTH	0-511	This represents the amount of colour in the border when the “Soft and coloured” border option is selected. (0-100%)
15	BACK	none	Go To the Top Level Menus

Menus 16-19 VIDEO Transition Set-up Menus (NEXT/PREV to navigate)



Menu Num.	Heading	Automation	Function
16	BORDER COLOUR	NONE	Points to adjacent menu for information only.

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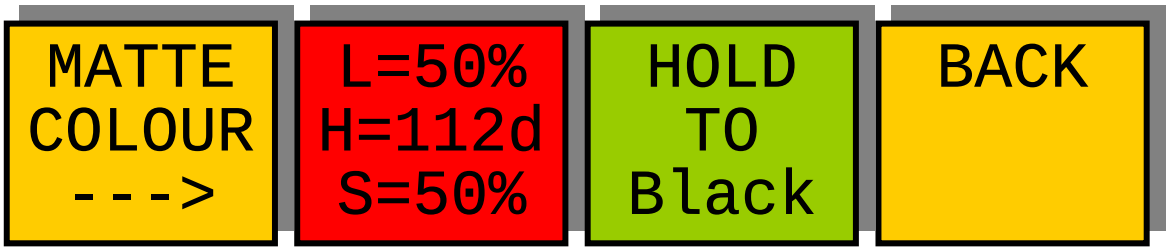
17	L= H= S=	Menu Level “A” 0-255 (L) Menu Level “B” 0-255 (H) Menu Level “C” 0-255 (S)	Press this button and the three digipots indicated by the lit LED’s will change the Luma, Hue and Saturation of the border colour.
18	MANUAL TRAN	0-799	This will manually move the Transition point between PGM and PST. (0-100%)
19	BACK	none	Go To the Top Level Menus

Menus 20-23 VIDEO Transition Set-up Menus (PREV for less)



Menu Num.	Heading	Automation	Function
20	MATTE COLOUR	none	Points to adjacent menu for information only.
21	L= H= S=	Menu Level “A” 0-255 (L) Menu Level “B” 0-255 (H) Menu Level “C” 0-255 (S)	Press this button and the three digipots indicated by the lit LED’s will change the Luma, Hue and Saturation of the Matte colour.
22	Hold To	0=Black 1=Matte	This is the “Intermediate” source for the “U” and “V” Fades
23	BACK	none	Go To the Top Level Menus

Menus 24-35 Hidden AUDIO Set-up Menus for automation only.

Menus 36-39 Utility Menus Nested Menus

Menu Num.	Heading	Automation	Function

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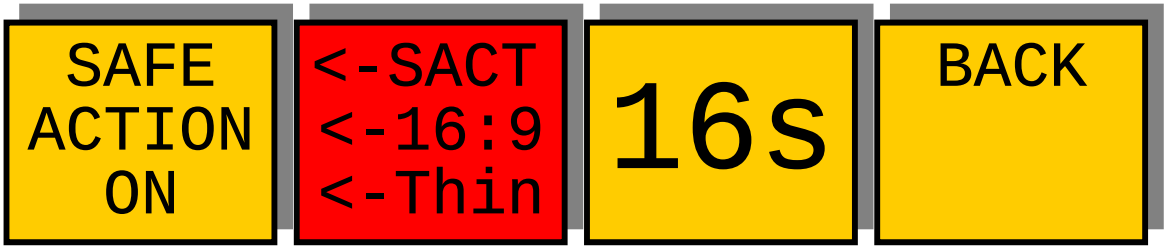
36	Preview	none	Go To preview output menus (40-43)
37	Set-up	none	Go To system set-up menus (44-47)
38	Memories	none	Go To memory menus (48-51)
39	Back	none	Go To the main Utility menus (0-3)

Menus 40-43 Utility Menus: Safe Area Gen



Menu Num.	Heading	Automation	Function
40	SAFE ACTION	None	This Switches on and off the currently selected area. Pressing the "Red" switch next to this one and adjusting the rotary digipots with the lighted green LED's chooses the Selected area.
41	None	Menu Level “A” 0=S.Action 1=S.Capt. 2=DigEdge 3=An Edge Menu Level “B” 0=4:3 1=16:9 2=16p4:3 3=16p149 4=43p16:9 **Menu Level “C”** 0=Thin 1=Thick	When this button is pressed to "Green". The Three-line display in the window indicates the three options, which can be changed by adjusting the three rotary digipots A, B and C. <u>Digipot A</u> Determines the basic Function Selects "Safe Action" option Selects "Safe Caption" option Selects "Digital Edge" option Selects the "An. Edge" option <u>Digipot B</u> Determines the Screen Format Standard 4:3 Screen Standard 16:9 Screen 16:9 Shoot to protect 4:3 16:9 Shoot to protect 14:9 (*) 4:3 Shoot to protect 16:9 (*) (*) -- Not available in 525 <u>Digipot C</u> Determines the Style of Indicate Thin White lines are used Thick White lines are used

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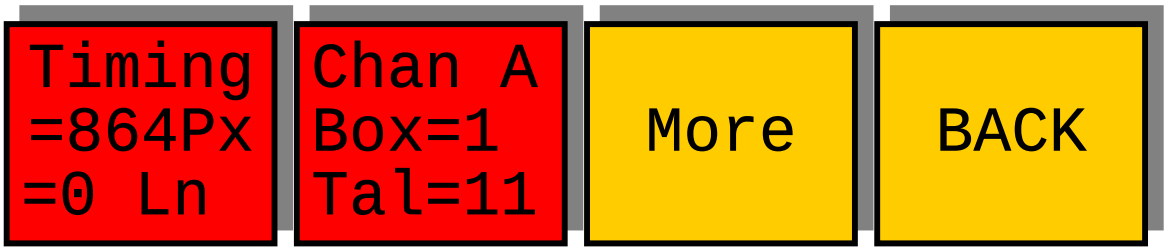
		2=Shade 3=Black	Shade is used for "danger area" Black is used for "danger area"
42	<Number>		This is a Timecode seconds count for timecode triggered automation. This records the “seconds” on the VITC on the reference input. This is only relevant in a Playout Compact system.
43	BACK	none	Go To the Top Level Menus

Menus 44-47 Utility Menus: Timing, EDH and S/W version



Menu Num.	Heading	Automation	Function
44	Timing	Menu Level “A” 0-1439 Menu Level “B” 0-624	Press this button and the two digipots indicated by the respective LED’s will cause modification to the Pixel Timing (37nS per step) and Line Timing (64uS per step)
45 These are always remembered on power up.	External Tally Set-Up	Not Usable	This unit can activate an external Tally on the FB-9E etherbox. The meaning of this set-up is explained in the section 3.4 “Configuring tallies on the etherbox.”
46	More	**none**	Takes you to the Resets and Software upgrade menus. Go to menu 136
47	BACK	none	Go To the Top Level Menus

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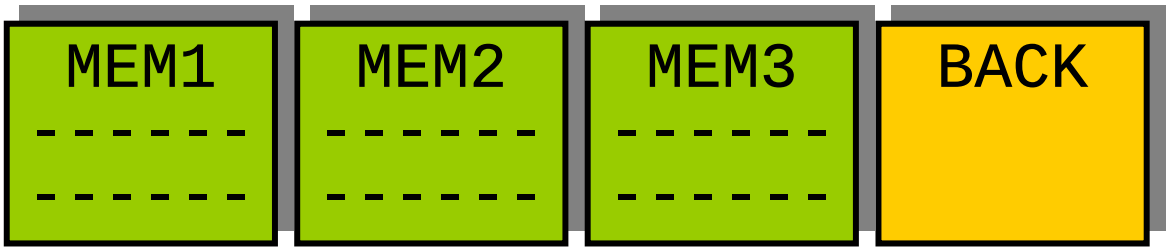
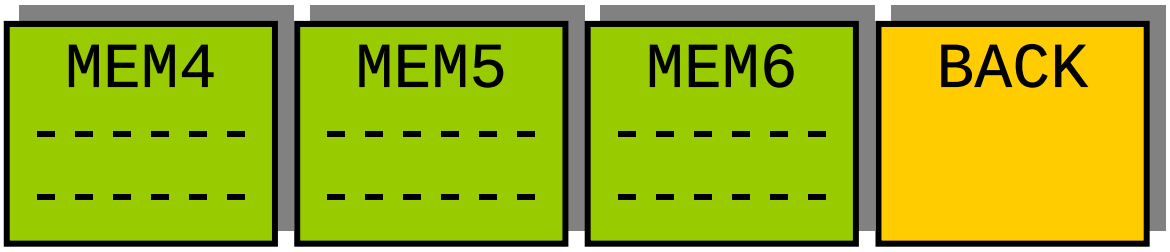
Menus 48-51 Utility Menus: Memories (NEXT for more)



Menu Num.	Heading	Automation	Function
48	MEM1	1=Recall	Pressing this will recall Memory number 1.User Names can be programmed in to the memories using a keyboard. See “geNETics User guide”, section “Giving product Memories names”
49	MEM2	1=Recall	Pressing this will recall Memory number 2.
50	MEM3	1=Recall	Pressing this will recall Memory number 3.
51	BACK	none	Go To the Top Level Menus

Menus 52-55 Utility Menus: Memories (NEXT/PREV to navigate)



Menu Num.	Heading	Automation	Function
52	MEM4	1=Recall	Pressing this will recall Memory number 4.
53	MEM5	1=Recall	Pressing this will recall Memory number 5.
54	MEM6	1=Recall	Pressing this will recall Memory number 6.
55	BACK	none	Go To the Top Level Menus

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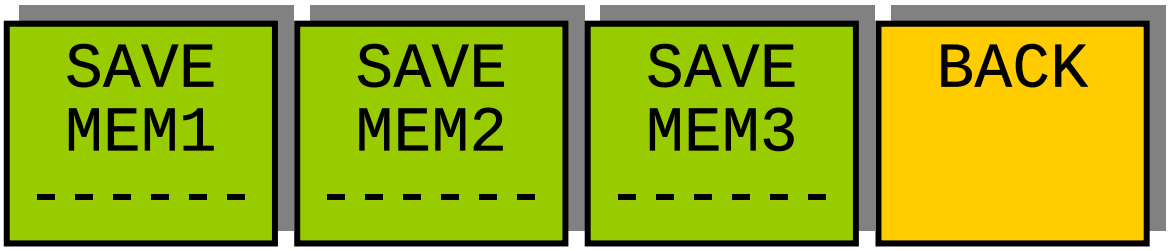
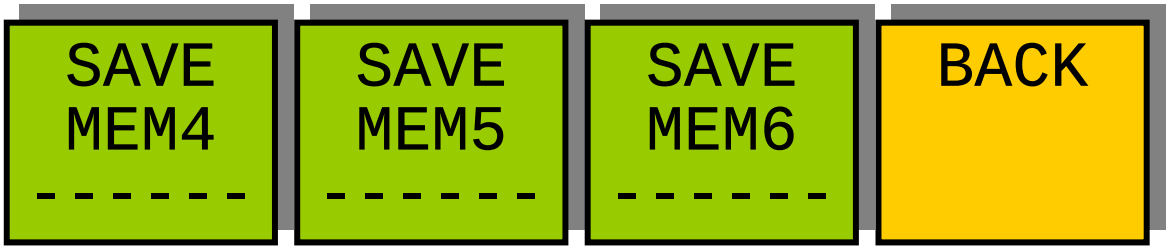
Menus 56-59 Utility Menus: Memories (NEXT/PREV to navigate)



Menu Num.	Heading	Automation	Function
56	SAVE MEM1	1=Save	Pressing this will Save Memory number 1.
57	SAVE MEM2	1= Save	Pressing this will Save Memory number 2.
58	SAVE MEM3	1= Save	Pressing this will Save Memory number 3.
59	BACK	none	Go To the Top Level Menus

Menus 60-63 Utility Menus: Memories (NEXT/PREV to navigate)



Menu Num.	Heading	Automation	Function
60	SAVE MEM4	1= Save	Pressing this will Save Memory number 4.
61	SAVE MEM5	1= Save	Pressing this will Save Memory number 5.
62	SAVE MEM6	1= Save	Pressing this will Save Memory number 6.
63	BACK	none	Go To the Top Level Menus

Menus 64-107 Hidden Menu's.

Menus 108-127 AUDIO Set-up Menus (PREV for less)

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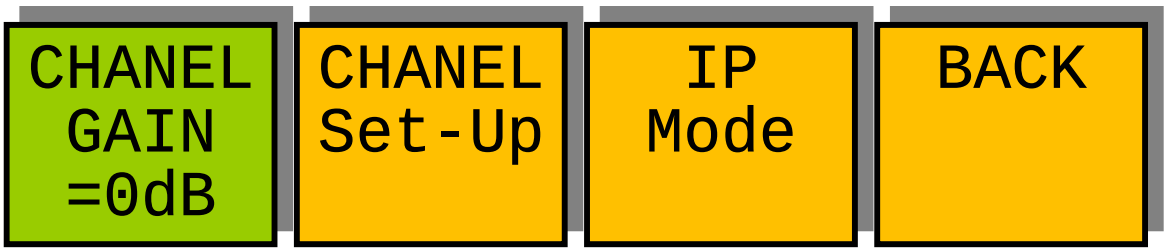

Menu Num.	Heading	Automation	Function
108	CHANNEL GAIN	0=-12dB 1=-6dB 2=0dB 3=+6dB 4=+12dB 5=+18dB	This sets the overall gain on the Embedded Audio.This applies only for the MW-2E Module, which incorporates embedded audio mixing.
109	Channel Set-Up		Go to menu 124 to set up Audio Transition mode, mix, cut.
110	Input Mode		Go to menu 112 to set up Audio input config, stereo, mono etc
111	BACK	none	Go To the Top Level Menus

Menu Num.	Heading	Automation	Function
112	ABch12	0=Stereo 1=L<>R 2=L→LR 3=R→LR 4=Mono	Press this button and the two digipots indicated by the respective LED's will cause modification to the A and B embedded audio Ch 1 and 2 as follows: Stereo (No change) Left and Right Swapped Left to both Left and Right Right to both Left and Right Mono
113	ABch34	As above	As above but for Chan 3/4
114	ABch56	As above	As above but for Chan 5/6
115	BACK	none	Go To menu 108

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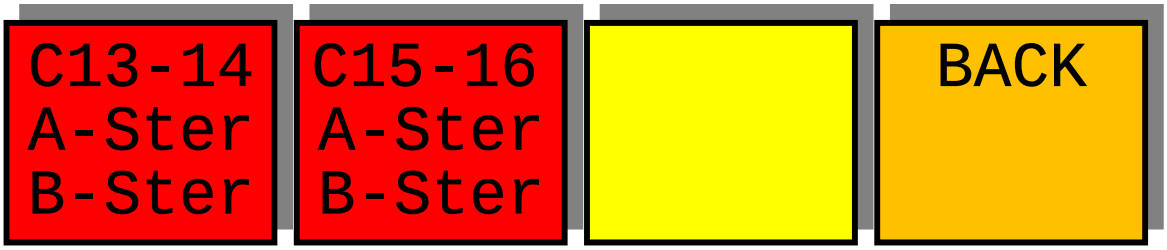
Menu Num.	Heading	Automation	Function
116	ABch78	0=Stereo 1=L<>R 2=L→LR 3=R→LR 4=Mono	Press this button and the two digipots indicated by the respective LED's will cause modification to the A and B embedded audio Ch 7 and 8 as follows: Stereo (No change) Left and Right Swapped Left to both Left and Right Right to both Left and Right Mono
117	Ch9-10	As above	As above but for Chan 9/10
118	C11-12	As above	As above but for Chan 11/12
119	BACK	none	Go To menu 108



Menu Num.	Heading	Automation	Function
120	C13-14	0=Stereo 1=L<>R 2=L→LR 3=R→LR 4=Mono	Press this button and the two digipots indicated by the respective LED's will cause modification to the A and B embedded audio Ch 13 and 14 as follows: Stereo (No change) Left and Right Swapped Left to both Left and Right Right to both Left and Right Mono
121	Ch15-16	As above	As above but for Chan 15/16
122			

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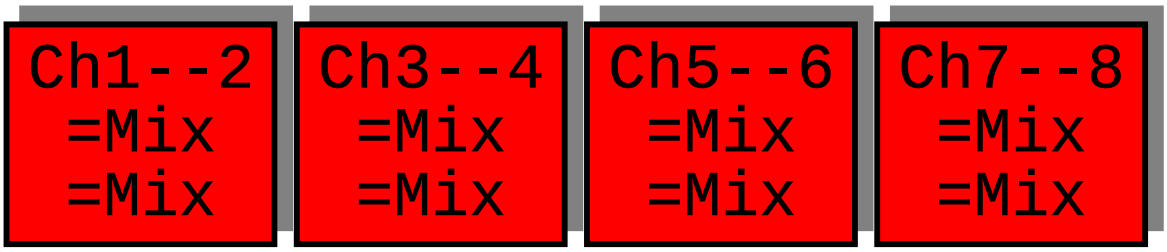
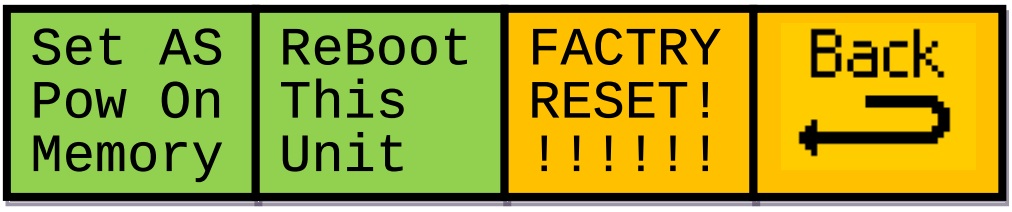
123	BACK	none	Go To menu 108



Menu Num.	Heading	Automation	Function
124	Ch1--2	0=Mix 1=Cut	Press this button and the two digipots indicated by the respective LED's will cause modification to the Chan1 and 2 Transitions: Mix Normal Audio with Video Mix Cut Audio cuts in the middle of the video transition. This is useful for splicing DolbyE streams.
125	Ch3--4	As above	As above but for Chan 3/4
126	Ch5--6	As above	As above but for Chan 5/6
127	Ch7--8	As above	As above but for Chan 7/8

Menus 128-147 Resets and Software Upgrade.



Menu Num.	Heading	Function
128	Set as Power on Memory	Pressing this will set the current settings as the default settings when the unit is powered up.
129	Reboot this unit	This applies a warm restart to the unit. It is the software equivalent of recycling the power.
130	Factory Reset	Pressing this will take you to the Factory Reset Last Chance menu. (Go To Menu 44).
131	BACK	Go To the Top menu

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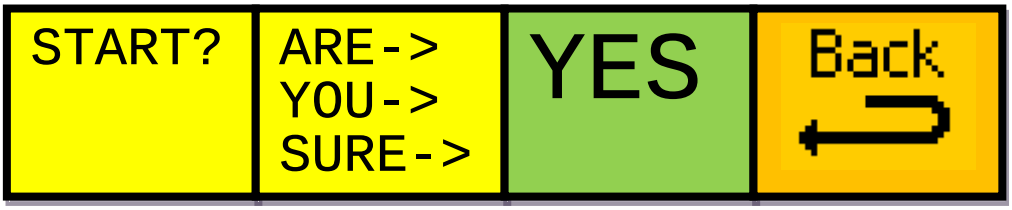

Menu Num.	Heading	Function
132	----	----
133	----	----
134	YES, I want to do a factory reset!	This will Start a factory Reset of the unit. This will Wipe ALL Logos and Settings that may have been previously set-up. Only do this if you are setting up from scratch, or there is a problem with your unit.
135	BACK	Go To the Top Menus

Menu Num.	Heading	Function
136	Upgrade Software	Pressing this will take you to the Software Upgrade last chance menu. (Go To Menu 140).
137	Software Version	This window displays the software version.
138	Resets	Pressing this will take you to the Reset Options. (Go To Menu 128).
139	BACK	Go To the Utilities Menus

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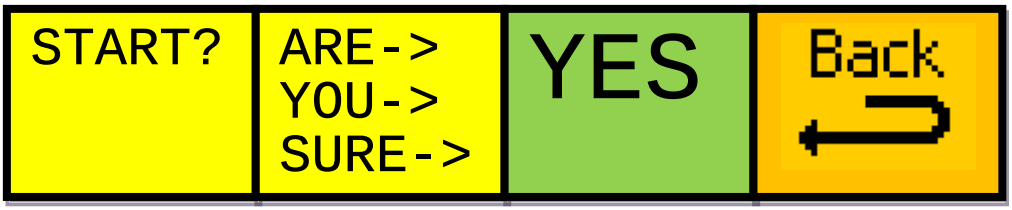
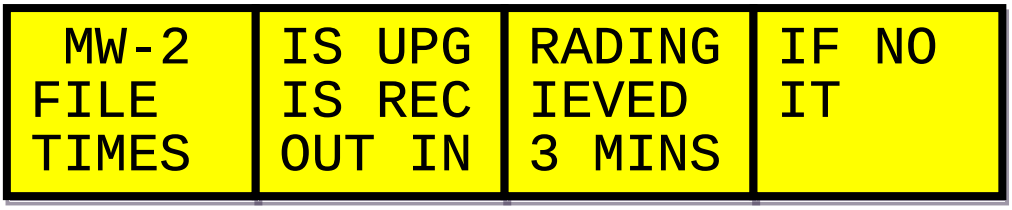


Menu Num.	Heading	Function
140	----	----
141	----	----
142	YES, I want to start a software upgrade	This will Start a software upgrade of the unit. You will need to follow the instructions in the etherbox (FB-9E) manual to correctly perform this procedure. This will Wipe ALL Logos and Settings that may have been previously set-up. The unit MUST be installed in an FB-9E to perform an upgrade.
143	BACK	Go To the Top Menus



Menu Num.	Heading	Function
144	----	This is a system message. If you accidentally press “Software Upgrade” then this message appears. If you have done this accidentally, simply WAIT 3 minutes and the system will return back to normal.
145	----	----
146	----	----
147	----	----

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4 Technical Appendix

4.1 geNETics Automation Protocol Parameter table.

This is the Automaticlly extracted parameters for the MW-2E. This is used for the generic geNETics automation protocol. See etherbox manual for a full description of its usage.

M	Acc	Text	Low	Up	L	Text1	Text2	Text3	Text4	Text5	Text6	Tx7	Tx8
0	N/A	[Gr]	N/A	N/A	A								
1	N/A	[Gr]	N/A	N/A	A								
2	N/A	[Gr]	N/A	N/A	A								
3	N/A	[Gr]	N/A	N/A	A								
4	R/W	{# }	0	2	A	TAKE	TAKE	TAKE					
4	R	{# }	0	4	B	VidAud	V.Only	A.Only	Asplit	[TRAN]			
5	R/W	{# }	0	3	A	PROG	PROG	PROG	PROG				
6	R/W	{# }	0	3	A	PRSET	PRSET	PRSET	PRSET				
7	N/A	[Gr]	N/A	N/A	A								
8	R/W	{# }	0	6	A	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	
9	R/W	{TIMES:}{Tr=# }	3	253	A								
9	R/W	{Hd=# }	0	993	B								
10	R/W	{# }	0	7	A	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]
11	N/A	[Gr]	N/A	N/A	A								
12	R/W	{BORDER}{# }	0	3	A	=OFF	SOFT	COL	SFCOL				
13	R/W	{ Bord }{ Size }{ =# }	1	49	A								
14	R/W	{Colour}{Depth:}{=# % }	0	511	A								
15	N/A	[Gr]	N/A	N/A	A								
16	N/A	{Border}{Color]}{-----]}	N/A	N/A	A								
17	R/W	{L=# %}	0	255	A								
17	R/W	{H=# d}	0	255	B								
17	R/W	{S=# %}	0	255	C								
18	R/W	{Manual}{ Tran }{=# %}	0	799	A								
19	N/A	[Gr]	N/A	N/A	A								
20	N/A	{Matte]}{Color]}{-----]}	N/A	N/A	A								
21	R/W	{L=# %}	0	255	A								
21	R/W	{H=# d}	0	255	B								
21	R/W	{S=# %}	0	255	C								
22	R/W	{Hold }{To: }{# }	0	1	A	Black	Matte						
23	N/A	[Gr]	N/A	N/A	A								
24	R	{Aud In}{# }	0	2	A	Lead	Lag	LL Off					
24	R/W	{# Fds}	64537	999	B								
25	R	{AudOut}{# }	0	2	A	Lead	Lag	LL Off					
25	R/W	{# Fds}	64537	999	B								
26	R/W	{F.Rate}{In=# F}	0	250	A								
26	R/W	{Ou=# F}	0	250	B								
27	N/A	[Gr]	N/A	N/A	A								
28	R/W	{Audio:}{# }	0	1	A	Follow	Sep						
29	R/W	{Chanel}{Gain= }{# }	0	5	A	-12dB	-6dB	0dB	+6dB	+12dB	+18dB		

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30	R/W	{ABmode}{# }	0	4	A	STER	LRswp	L] LR	R] LR	MONO		
30	R/W	{# }	0	4	B	STER	LRswp	L] LR	R] LR	MONO		
31	N/A	[Gr]	N/A	N/A	A							
32	R/W	{ATAKE:}{# }	0	1	A	A-AUD	[TRAN]					
32	R/W	{# }	0	1	B	B-AUD	[TRAN]					
33	R/W	{Levels}{A=# %}	0	1023	A							
33	R/W	{B=# %}	0	1023	B							
34	R/W	{T-Time}{A=# F}	1	200	A							
34	R/W	{B=# F}	1	200	B							
35	N/A	[Gr]	N/A	N/A	A							
36	N/A	[Gr]	N/A	N/A	A							
37	N/A	[Gr]	N/A	N/A	A							
38	N/A	[Gr]	N/A	N/A	A							
39	N/A	[Gr]	N/A	N/A	A							
40	R	{# }	0	3	A	SAFE	SAFE	DIG	ANALG			
40	R	{# }	0	3	B	ACTN	CAPT	EDGE	EDGE			
40	R/W	{# }	0	1	C	OFF	ON					
41	R/W	{# }	0	3	A	[S.Act	[S.Cap	[D.Edg	[A.Edg			
41	R/W	{# }	0	4	B	[4:3	[16:9	16p4:3	16p149	43p149		
41	R/W	{# }	0	3	C	[Thin	[Thick	[Shade	[Black			
42	R	{# s }	1	59	A							
43	N/A	[Gr]	N/A	N/A	A							
44	R/W	{Timing}{# Px}	0	1728	A							
44	R/W	{# Ln}	0	627	B							
45	R/W	{PGM: }{# }	0	1	A	EDHoff	EDH On					
46	N/A	[Gr]	N/A	N/A	A							
47	N/A	[Gr]	N/A	N/A	A							
48	R/W	{%] }{Mem 1 }{# }	0	1	A	Recall	DONE					
49	R/W	{%] }{Mem 2 }{# }	0	1	A	Recall	DONE					
50	R/W	{%] }{Mem 3 }{# }	0	1	A	Recall	DONE					
51	N/A	[Gr]	N/A	N/A	A							
52	R/W	{%] }{Mem 4 }{# }	0	1	A	Recall	DONE					
53	R/W	{%] }{Mem 5 }{# }	0	1	A	Recall	DONE					
54	R/W	{%] }{Mem 6 }{# }	0	1	A	Recall	DONE					
55	N/A	[Gr]	N/A	N/A	A							
56	R/W	{%] }{Mem 1 }{# }	0	1	A	Save	DONE					
57	R/W	{%] }{Mem 2 }{# }	0	1	A	Save	DONE					
58	R/W	{%] }{Mem 3 }{# }	0	1	A	Save	DONE					
59	N/A	[Gr]	N/A	N/A	A							
60	R/W	{%] }{Mem 4 }{# }	0	1	A	Save	DONE					
61	R/W	{%] }{Mem 5 }{# }	0	1	A	Save	DONE					
62	R/W	{%] }{Mem 6 }{# }	0	1	A	Save	DONE					
63	N/A	[Gr]	N/A	N/A	A							
64	N/A	[Gr]	N/A	N/A	A							
65	N/A	[Gr]	N/A	N/A	A							
66	N/A	[Gr]	N/A	N/A	A							
67	N/A	[Gr]	N/A	N/A	A							
68	R/W	{# }	0	6	A	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]
69	R/W	{# }	0	3	A	[Gr]	[Gr]	[Gr]	[Gr]			
70	N/A	[Gr]	N/A	N/A	A							

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71	N/A	[Gr]	N/A	N/A	A								
72	R/W	{HoldTo}{# }	0	1	A	Black	Matte						
72	R/W	{For# F}	0	993	B								
73	R/W	{L=# %}	0	255	A								
73	R/W	{H=# d}	0	255	B								
73	R/W	{S=# %}	0	255	C								
74	R/W	{ User }{TrTime}{=# fr}	3	253	A								
75	N/A	[Gr]	N/A	N/A	A								
76	R/W	{# }	0	7	A	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]
77	R/W	{# }	0	3	A	NoBord	Bordr1	Bordr2	Bordr3				
77	R/W	{Sz=# }	1	49	B								
77	R/W	{Dp=# %}	0	511	C								
78	R/W	{L=# %}	0	255	A								
78	R/W	{H=# d}	0	255	B								
78	R/W	{S=# %}	0	255	C								
79	N/A	[Gr]	N/A	N/A	A								
80	R/W	{# }	0	1	A	AUTO	MAN						
81	R/W	{# }	0	1	A	AUTO	MAN						
82	N/A	{Manual}{[Audio}{[Oride}	N/A	N/A	A								
83	N/A	{ BACK }{Aud LL}{ }	N/A	N/A	A								
84	R/W	{Chanel}{Gain= }{# }	0	5	A	-12dB	-6dB	0dB	+6dB	+12dB	+18dB		
85	R/W	{# }	0	4	A	STER	LRswp	L] LR	R] LR	MONO			
86	R/W	{# }	0	4	A	STER	LRswp	L] LR	R] LR	MONO			
87	N/A	[Gr]	N/A	N/A	A								
88	N/A	[Gr]	N/A	N/A	A								
89	N/A	[Gr]	N/A	N/A	A								
90	N/A	[Gr]	N/A	N/A	A								
91	N/A	[Gr]	N/A	N/A	A								
92	R/W	{# }	0	6	A	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	
93	R/W	{# }	0	3	A	[Gr]	[Gr]	[Gr]	[Gr]				
94	R/W	{ User }{TrTime}{=# fr}	3	253	A								
95	N/A	[Gr]	N/A	N/A	A								
96	R/W	{HoldTo}{# }	0	1	A	Black	Matte						
96	R/W	{For# F}	0	993	B								
97	N/A	{Matte]}{Color]}{-----]}	N/A	N/A	A								
98	R/W	{L=# %}	0	255	A								
98	R/W	{H=# d}	0	255	B								
98	R/W	{S=# %}	0	255	C								
99	N/A	[Gr]	N/A	N/A	A								
100	R/W	{# }	0	7	A	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]	[Gr]
101	R/W	{# }	0	3	A	NoBord	Bordr1	Bordr2	Bordr3				
101	R/W	{Sz=# }	1	49	B								
101	R/W	{Dp=# %}	0	511	C								
102	R/W	{L=# %}	0	255	A								
102	R/W	{H=# d}	0	255	B								
102	R/W	{S=# %}	0	255	C								
103	N/A	[Gr]	N/A	N/A	A								
104	N/A	{MIX }{ }{ }	N/A	N/A	A								
105	N/A	{ER }{ }{ }	N/A	N/A	A								
106	N/A	{TRA }{ }{ }	N/A	N/A	A								

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107	N/A	{NS }{ }{ }	N/A	N/A	A						
108	R/W	{Chanel}{Gain= }{# }	0	5	A	-12dB	-6dB	0dB	+6dB	+12dB	+18dB
109	N/A	[Gr]	N/A	N/A	A						
110	N/A	[Gr]	N/A	N/A	A						
111	N/A	[Gr]	N/A	N/A	A						
112	R/W	{ABCh12}{# }	0	4	A	A-Ster	A-L[]R	A-L]LR	A-R]LR	A-MONO	
112	R/W	{# }	0	4	B	B-Ster	B-L[]R	B-L]LR	B-R]LR	B-MONO	
113	R/W	{ABCh34}{# }	0	4	A	A-Ster	A-L[]R	A-L]LR	A-R]LR	A-MONO	
113	R/W	{# }	0	4	B	B-Ster	B-L[]R	B-L]LR	B-R]LR	B-MONO	
114	R/W	{ABCh56}{# }	0	4	A	A-Ster	A-L[]R	A-L]LR	A-R]LR	A-MONO	
114	R/W	{# }	0	4	B	B-Ster	B-L[]R	B-L]LR	B-R]LR	B-MONO	
115	N/A	[Gr]	N/A	N/A	A						
116	R/W	{ABCh78}{# }	0	4	A	A-Ster	A-L[]R	A-L]LR	A-R]LR	A-MONO	
116	R/W	{# }	0	4	B	B-Ster	B-L[]R	B-L]LR	B-R]LR	B-MONO	
117	R/W	{Ch9-10}{# }	0	4	A	A-Ster	A-L[]R	A-L]LR	A-R]LR	A-MONO	
117	R/W	{# }	0	4	B	B-Ster	B-L[]R	B-L]LR	B-R]LR	B-MONO	
118	R/W	{C11-12}{# }	0	4	A	A-Ster	A-L[]R	A-L]LR	A-R]LR	A-MONO	
118	R/W	{# }	0	4	B	B-Ster	B-L[]R	B-L]LR	B-R]LR	B-MONO	
119	N/A	[Gr]	N/A	N/A	A						
120	R/W	{C13-14}{# }	0	4	A	A-Ster	A-L[]R	A-L]LR	A-R]LR	A-MONO	
120	R/W	{# }	0	4	B	B-Ster	B-L[]R	B-L]LR	B-R]LR	B-MONO	
121	R/W	{C15-16}{# }	0	4	A	A-Ster	A-L[]R	A-L]LR	A-R]LR	A-MONO	
121	R/W	{# }	0	4	B	B-Ster	B-L[]R	B-L]LR	B-R]LR	B-MONO	
122	N/A	{ }{ }{ }	N/A	N/A	A						
123	N/A	[Gr]	N/A	N/A	A						
124	R/W	{Ch1--2}{# }	0	1	A	=Mix	=Cut				
124	R/W	{# }	0	1	B	=Mix	=Cut				
125	R/W	{Ch3--4}{# }	0	1	A	=Mix	=Cut				
125	R/W	{# }	0	1	B	=Mix	=Cut				
126	R/W	{Ch5--6}{# }	0	1	A	=Mix	=Cut				
126	R/W	{# }	0	1	B	=Mix	=Cut				
127	R/W	{Ch7--8}{# }	0	1	A	= Mix	=Cut				
127	R/W	{# }	0	1	B	=Mix	=Cut				
128	R/W	{# }	0	1	A	Set As	!WAIT!				
129	R/W	{# }	0	1	A	ReBoot	!WAIT!				
130	N/A	{FACTRY}{RESET!}{!!!!!!}	N/A	N/A	A						
131	N/A	[Gr]	N/A	N/A	A						
132	N/A	{START?}{ }{ }	N/A	N/A	A						
133	N/A	{ ARE]}{ YOU]}{SURE?]}	N/A	N/A	A						
134	R/W	{# }	0	1	A	YES	OK!				
135	N/A	[Gr]	N/A	N/A	A						
136	N/A	UPGRDE SOFTWR NOW!	N/A	N/A	A						
137	R/W	{# }	0	1	A	AonAir	BonAir				
137	R/W	{Box=# }	0	16	B						
137	R/W	{Tal=# }	0	255	C						
138	N/A	{RESETS}{ }{ }	N/A	N/A	A						
139	N/A	[Gr]	N/A	N/A	A						
140	N/A	{START?}{ }{ }	N/A	N/A	A						
141	N/A	{ ARE]}{ YOU]}{SURE?]}	N/A	N/A	A						
142	R/W	{# }	0	1	A	YES					

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143	N/A	[Gr]	N/A	N/A	A
144	N/A	{MW-2E }{FILE }{TIMES }	N/A	N/A	A
145	N/A	{IS UPG}{IS REC}{OUT IN}	N/A	N/A	A
146	N/A	{RADING}{IEVED }{3 MINS}	N/A	N/A	A
147	N/A	{IF NO }{IT }{ }	N/A	N/A	A

4.2 Technical Specification.

SDI Inputs (270Mbit, 800mV p-p±10% into 75ohms load)	3 Inputs (SDI) 270 Mbit/s to SMPTE 259M; REF, A and B In. RL < -15 dB.
SDI Outputs (270Mbit, 800mV p-p±10% into 75ohms load)	2 Outputs (SDI) 270 Mbit/s to SMPTE 259M; PGM and PVW.
SDI cable equalisation	At least 200 metres of PSF 1/3 or equivalent cable.
SDI output jitter	The unit will add <0.15 UI to the incoming signal (10 Hz filter).
Ancillary Data	Passes all ancillary data in vertical and horizontal blanking intervals without modification except for CRC recalculation and processes Embedded Audio

Control System Connections	Eyeheight I-Bus, 2 wire network.
Control Surfaces	Option of three eyeheight control surfaces. Integral front mounted or remote FP-9, Flexi-Panel, 1 RU Control Panel and VP-10 T-Bar control.
Chassis	Eyeheight geNETics 1U system, FB-9.
Line Standards SDI	625 and 525
Power Supply	100-240V AC. Less than 50W power consumption.
Delay	<10µs
Chassis Dimensions; FB-9	Width 442mm Height 44mm Depth 450mm
Chassis Weight;	<3kg
Temperature	<25°C ambient, <55°C internal.
Humidity	Recommend 40 to 55% Limits 20 to 80%.

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